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CHINA'S STRUCTURAL MONETARY POLICY TOOLS: OBJECTIVES, LIMITATIONS, UNINTENDED CONSEQUENCES

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ABSTRACT

Central bank interventions have intended and unintended structural effects. A growing number of monetary authorities are acknowledging these structural implications of monetary policy and have started addressing them more actively. In line with this development, the People's Bank of China (PBC) has introduced a range of structural monetary policy tools.

This policy brief presents a typology of PBC's structural monetary policy instruments, including targeted reserve requirements, central bank lending, and central bank discounts. It examines the policy objectives these instruments are designed to pursue, ranging from addressing distortions in the monetary policy transmission to fine-tuning monetary policy in support of financial stability and societal transitions. It also scrutinizes potential limitations and unintended consequences, including misdiagnosis of liquidity shortage and fragmentation of the monetary policy transmission.

Understanding the structural implications of monetary policy and strengthening their alignment with broader policy objectives is critical. The exploration of the PBC's structural monetary policy tools offers an important opportunity to contribute to this objective.

INTRODUCTION

Central bank interventions are never market neutral. In fact, claims of market neutrality notwithstanding, the ultimate objective of monetary policy is to change market outcomes – in particular interest rate levels and the amount of available credit. Beyond such aggregate impacts, central bank interventions also have key repercussions on market structures (Colesanti Senni and Monnin, 2020).

Some of the structural effects of monetary policy stem from deliberate targeting. The Federal Reserve, for example, has used large scale asset purchases to influence longer-term interest rates. The European Central Bank's (ECB) targeted longer-term refinancing operations (TLTROs) provide liquidity to banks for loans to non-financial corporations and households, while excluding mortgages from eligibility. And the Bank of Japan, as a further illustration, has allocated a share of its asset purchases to companies that proactively invest in physical and human capital.

In addition to such intentional focus on specific market segments, monetary policy also has unintended structural consequences. The different effects of exchange rate interventions on exports and imports of a country provide examples. The distributional implications of quantitative easing across poorer and wealthier households offer further illustration.

Developing a better understanding of the intended and unintended effects of monetary policy on market structures is critical. Strengthening the alignment of these effects with broader policy objectives is equally vital.

To that end, the structural monetary policy measures China has taken offer valuable insights. The People's Bank of China (PBC) has been using targeted interventions in its monetary policy for a long time. The introduction of tiered reserve requirements for the banking sector in 2004 is a case in point. In response to the pandemic, the PBC reiterated its goal to tap "into the effect of monetary policy tools on aggregates and structure, securing the fundamentals of the macroeconomy, and making policies more targeted and direct". In that context, it also committed to coordinating monetary policy with fiscal and industrial policy, and further expanded the range of structural monetary policy instruments in its toolset (PBC, 2022g).

The PBC's use of structural monetary policy tools highlights key perspectives on how central bank decisions actively reflect the differential effects they have on the economy. Against this background, this policy brief describes the PBC's use of monetary policy to target structural objectives. It provides a typology of structural monetary policy tools, including targeted reserve requirements, central bank lending, and central bank discounts. Structural monetary policy tools provide preferential funding to financial institutions if certain conditions with respect to targeted lending or positioning of service are met. They can be used to support a variety of economic activities for addressing structural deficiencies, strengthening financial stability, and supporting long-term public policy goals. They also provide means to fine-tune monetary policy under diverse policy environments, from policy easing to contractionary policy. At the same time, structural monetary policy tools can be ineffective when credit shortage in targeted economic segments does not originate from liquidity shortage. They may lead to a fragmentation of the monetary policy transmission. They may also be used to expand funding to undesired purposes and create moral hazards as banks lose motivation for scrutiny. Structural monetary policy tools require the right policy conditions for them to work. Effective monetary policy transmission mechanisms and financial supervision are vital.

Altogether, the use of structural monetary policy tools rests on the recognition that all types of monetary policy have structural implications. Understanding these implications and strengthening their alignment with broader policy objectives is critical. The exploration of the PBC's structural monetary policy tools offers an important opportunity to contribute to this objective.

CONCEPTUAL FRAMEWORK

Monetary policy is always structurally skewed. The effects of all types of monetary policy interventions are dependent on financial markets and the transmission mechanisms they underpin. Central bank funds flow to segments of the economy that have sufficient access to financial markets. In this fashion, central bank liquidity provision is likely to be tilted towards established sectors and larger financial institutions. In other words, monetary policy has structural implications, regardless of stated policy intentions to stay neutral. The policy choices by central banks on the ways to deal with such structural effects of monetary policy are significant.

China proactively uses structural monetary policy tools to steer funding to targeted segments of the economy – on the one hand to segments that are disadvantaged through existing market structures, on the other to parts of the economy that are in focus of forward-looking public policy goals. The former includes micro and small businesses (MSBs) as well as rural and regional firms that have limited access to financial markets. To this end, one facet of structural monetary policy instruments addresses market failures and externalities that are not accounted for by non-targeted policy tools. Another facet reflects a forward-looking approach that aligns central bank monetary policy with prioritized – often nascent – sectors of national importance. These include sectors essential for green, energy, demographic, and technological transitions. The forward-looking approach looks at macroeconomic and social developments on a longer horizon and provides incentives for funding towards targeted sectors.

Structural monetary policy tools provide market-oriented incentives and thus differ significantly from administrative interventions. They offer conditions to steer eligible institutions towards targeted policy objectives. In particular, they create financial incentives for banks to offer loans to certain economic segments. At the same time, however, they leave the default risk of these loans with the banks. In this fashion, the task of evaluating risks and weighing alternative options still falls onto financial institutions. This approach differs from administrative interventions, such as mandatory credit quotas as eligible institutions must decide on their own whether and to what extent to make use of the PBC's financial incentives.

STRUCTURAL MONETARY POLICY TOOLS: A TYPOLOGY

China's structural monetary policy tools comprise three types of central bank policy interventions: reserve requirement, central bank lending, and central bank rediscounting. Table 1 presents a typology that comprises operational monetary policy tools. Structural monetary policy instruments are highlighted in yellow.

Table 1. Typology of Monetary Policy Instruments.

Monetary Policy Tool	Description	Instruments	Targets
Reserve Requirements	Requirements defining the amount of reserves commercial banks must hold with the central bank	Targeted Reserve Requirement Ratios (RRR)	To ease liquidity constraints on medium-sized and smaller banks and lending institutions that tend to lend to MSBs and rural areas
Open Market Operations	Operations involving the purchase or sale of securities	Repo/Reverse Repo, Short-term Liquidity Operations (SLO)	
		Central Bank Bills Issuance or Swap	
		Outright Purchase and Sales of Bonds on the Secondary Market	
		Central Treasury Cash Management Operation	
Central Bank Lending	Collateralized loans provided by the central bank to commercial banks	Lending Facilities, e.g. Standing Lending Facility (SLF), Medium-Term Lending Facility (MLF)	
		Targeted Lending Facilities	To provide liquidity to banks that lend to MSBs, rural areas, and support activities and firms of national importance
Central Bank Discounts	The purchase or sale of discounted acceptance bills from commercial banks by the central bank	Rediscounting	To provide liquidity to banks that hold acceptance bills servicing certain segments

Targeted Reserve Requirement Ratios

The reserve requirement ratio (RRR) is a legal requirement for depository institutions to keep a certain percentage of deposits in their account with the central bank. While these reserves cannot be used for lending or investment, they serve to maintain a minimum level of liquidity available to banks in case of rapid drawdown of deposits. Over time, the adjustment of the RRR became a monetary policy practice by the PBC to manage the level of money supply in the economy. A lowering of the RRR allows banks to lower the ratio of reserves they hold at the central bank and implies an injection of liquidity into economic circulation. An increase of the RRR leads to a contraction of the monetary base.

The PBC has created a tiered RRR system for depository institutions based on their size, systemic importance, type of institution, and positioning of service. Since 2004, the PBC has been working with tiered RRRs for depository institutions which was formalized as the "Three Tranches and Two Preferential Treatments" framework in 2019. The "three tranches" categorize depository financial institutions in China into three groups. The first group consists of six large state-owned commercial banks, including the Industrial and Commercial Bank of China, the Agricultural Bank of China, the Bank of China, the China Construction Bank, the Bank of Communications, and the Postal Savings Bank of China. The second group comprises medium-sized banks, including joint-stock commercial banks and city commercial banks. The third group includes small banks and, in particular, depository and lending institutions that operate in rural areas, such as rural commercial banks, rural credit cooperatives, rural cooperative banks, and village banks. Until 2021, the "two preferential treatments" provided additional RRR cuts depending on a bank's lending portfolio (PBC, 2019b).

Under the PBC's tiered RRR framework, each group of banks is assigned a differentiated RRR, ranging from the highest for the first tranche to the lowest for the third tranche (PBC, 2019b). In other words, smaller banks receive more support in their lending business as they are required to hold a lower quantity of reserves. In parallel, until 2021, the "Two Preferential Treatments" granted an additional RRR cut of 0.5% and 1.5% for banks in the first and second tranche, respectively, if their lending to inclusive finance segments met a certain lending ratio. Inclusive finance segments included "loans to farmers for production and management, consumption loans to the registered poor population, student loans, guaranteed loans to start-ups, operating loans to self-employed traders and micro and small business (MSBs) owners, and loans to MSBs with the credit line for each borrower below RMB10 million, [also called inclusive MSB loans]" (PBC, 2020c).[1] Moreover, depository and lending institutions in the third tranche were eligible for an additional 1% RRR cut if their local lending met a specified proportion of the increment in their deposits.

The PBC deploys targeted RRR cuts to release reserve funds and incentivize lending towards specified areas. Such targeted cuts allow selected lending institutions to release funds from their reserve quota. The PBC can hereby tailor monetary easing to lending institutions whose primary borrowers are businesses in targeted segments of the economy, e.g. in rural areas or poverty-stricken areas. For example, with the RRR cut on 25 April 2022, all financial institutions (except those with reserve ratios already down at 5%) received a

[1] The size of micro and small businesses (MSBs) varies by industry according to the classification provided by China's Ministry of Finance (MOF, 2011).

0.25% reduction in reserve requirement. In addition, urban commercial banks operating in local provinces as well as rural commercial banks were eligible for an additional RRR cut of 0.25% (PBC, 2022e).

Central Bank Lending

The PBC conducts central bank lending via broad and targeted lending facilities. Broad lending facilities allow financial institutions to borrow central bank funds for a specific time period against eligible collateral. The PBC's Standing Lending Facility (SLF) offers funding overnight, as well as for seven days or one month. Its Medium-Term Lending Facility (MLF) provides liquidity for three months, six months, or one year (BIS, 2022).

In addition to broad central bank lending, the PBC also offers targeted lending facilities. Targeted lending facilities provide preferential refinancing to eligible lenders if certain conditions with regard to targeted credit extension are met. These conditions can include new loan origination or deferred repayments of loans in targeted segments, among others. Through broad and targeted lending facilities, the PBC can expand the money supply by offering refinancing or withdraw money from the system as they mature.

Targeted lending facilities include the Targeted Medium-Term Lending Facility (TMLF), the Pledged Supplementary Lending Facility (PSL), and other special purpose lending facilities traditionally known as relending. Among these, the TMLF and further facilities are discontinued. The PSL program had been recording net withdrawals since 2020 but was revived in September 2022. (Caixin, 2022) The TMLF provided liquidity to large state-owned commercial banks, joint-stock commercial banks, and large city commercial banks based on their past lending to MSBs and private businesses. Eligible banks received preferential refinancing at 15 basis points lower than the prevailing MLF rate and were able to roll over their TMLF loans twice. The PSL offers liquidity against collateral to support loans to agriculture, housing and other infrastructure investments, and is available to the three policy banks, i.e., the China Development Bank, the Agricultural Development Bank of China, and the Export-Import Bank of China.

Special purpose lending facilities (hereafter "SPLFs") at the PBC offer to refinance loans of banks and lending institutions when certain conditions are met. These conditions determine quantitative targets and select economic segments that bank loans must be extended to. The 'reimbursement mechanism' of SPLFs prescribes the sequence of the refinancing procedure, by which banks must extend loans to targeted segments first before they can pledge collateral to apply for central bank refinancing. This approach integrates the objective of specified credit targeting into the mechanism of the program. It also leaves the default risk for these loans and thus the need for proper risk assessment with the banks – a key feature to avoid moral hazard.

The PBC uses a variety of both long-term and temporary targeted lending facilities to address a range of structural needs of the economy (PBC, 2022f). Regional branches of the PBC oversee long-term SPLFs that target rural and regional areas while the headquarters supervises temporary SPLFs that operate on the national scale. Long-term facilities support economic segments that are structurally disadvantaged in the monetary policy transmission. These include SPLFs supporting rural areas, micro and small businesses (MSBs) and private businesses, as well as inclusive finance or poverty alleviation in the past. Temporary facilities are set up to address pressing needs arising from crises or short-term shocks, such as the

"Special [Purpose] Lending Facility for Epidemic Prevention and Control" launched in February 2020 or the "Special [Purpose] Lending Facility for Transport, Logistics, and Storage Sectors" set up in May 2022. They also provide refinancing for prioritized projects and sectors of national importance, such as carbon reduction, clean coal, sci-tech innovation, inclusive elderly care, and equipment upgrading. A non-exhaustive list of the PBC's ongoing targeted lending facilities and the discontinued ones are provided in Table 2 and Table 3. Long-term facilities are highlighted in green while temporary facilities are marked in yellow. (PBC, 2022h)

Targeted lending facilities are often implemented via banking and lending institutions that specialize in the targeted segments of the economy. Credit is the primary funding channel in China as two thirds of aggregate financing to the real economy (AFRE) is directed via bank lending (PBC, 2022a). Banks, financial cooperatives, and other financial institutions in China typically specialize in their positioning of service. Given this context, the selection of eligible institutions is contingent on the objective of the SPLF. For example, the SPLF for rural finance is only accessible to rural and county banks operating in rural areas. Similarly, restricting eligibility criteria for the MSBs and private businesses SPLF to city commercial banks, rural commercial banks, private commercial banks, and rural cooperative banks offers an incentive for lending to smaller private enterprises, as these are the firms that the selected banks typically lend to. In contrast, the SPLF for sci-tech innovation is accessible to 21 well-capitalized banks that are deemed to possess particular capacity and experience to evaluate the potential of innovative technologies.

Table 2. Targeted Lending Facilities as of June 2022

Targeted Lending Facility	Target	Eligible Institutions	1-year Interest rate	Quota in billion RMB	Amount Outstanding
Rural finance (long-term)	Rural areas	Rural/county lending institutions	2%	760	540.4
MSBs and Private Enterprises (long-term)	Micro small businesses (MSBs) and private enterprises	City/rural/private commercial banks, rural cooperative banks	2%	1640	1399.7
Inclusive MSB Loans	Inclusive loans of micro small businesses (MSBs)	Locally incorporated financial institutions		40	4.4
Pledged Supplementary Lending (PSL)	Shantytown redevelopment projects, underground pipe gallery construction, major water conservancy projects etc.	3 policy banks (China Development Bank, Export-Import Bank, Agricultural Development Bank)	2.8%	None	2620.3
Carbon-Emissions Reduction Facility (CERF)	Clean energy, energy conservation and environmental protection, carbon reduction technology	23 nationwide financial institutions	1.75% on 60% of loan principal	800	182.7
Clean Coal	Safe production and reserve; supply for coal power enterprises	5 state-owned commercial banks, CDB, Ex-Im Bank	1.75%	300	35.7
Sci-tech Innovation	New-/high-tech enterprises, SMEs with tech backgrounds, national champion enterprises	21 nationwide financial institutions	1.75% on 60% of loan principal	200	0
Inclusive Elderly Care (pilot project)	Inclusive elderly care institutions in Zhejiang, Jiangsu, Henan, Hebei, Jiangxi	5 state-owned commercial banks, China Development Bank, Export-Import Bank	1.75%	40	0
Transport, Logistics and Storage Sectors	Transport; small businesses in logistics and storage sectors	6 state-owned commercial banks, Agricultural Development Bank	1.75%	100	0
Equipment Upgrading	Manufacturing/social service sectors; Micro, small, and medium-sized/self-employed enterprises	21 nationwide financial institutions	1.75%	Over 200	0
Total Amount Outstanding in billion RMB					4783.2

Source: People's Bank of China.

Table 3. Discontinued Targeted Lending Facilities and Experimental Schemes since 2020

Relending Program	Target	Eligible Institutions	Quota in billion RMB
Inclusive Finance (long-term, terminated in 2021)	Rural businesses and MSBs in impoverished areas	Rural banks, cooperatives, and credit institutions	
Deferred Repayment Scheme (2021)	Deferral of principal and interest repayments on inclusive loans	Locally incorporated banks	40
Unsecured Loans Scheme (2021)	Raise the share of unsecured MSB loans	Locally incorporated banks	400
Work and Production Resumption (2020)	Prioritized for MSBs, supply chain-linked production, development in impoverished areas, and sectors affected by the pandemic	Financial institutions	Part of a 500 billion program
Epidemic Prevention and Control (2020)	For banks in the most-afflicted provinces like Hubei, supporting key enterprises engaged in the production, transportation, and sales of crucial medical supplies	National and certain locally incorporated banks	300

Source: People's Bank of China.

The financial incentive through these targeted lending facilities depends on their funding conditions in terms of price, refinancing ratio, and volume. Most of the targeted lending facilities currently offer funding at an interest rate of 2% or lower, well below the current interest rates of PBC's broad lending facilities such as the SLF and MLF. SPLFs for the segments of carbon reduction and sci-tech innovation limit central bank refinancing to 60% of the loan principal. For most SPLFs, the overall volume of refinancing is set to a quota that is continuously adjustable to the needs of the program. Finally, most SPLFs rely on location-based allocation or project-based classification systems. For example, the CERF supports projects in clean energy, energy conservation and environmental protection, as well as carbon reduction technology. Each of the three larger categories is further divided into specific project-based categories.

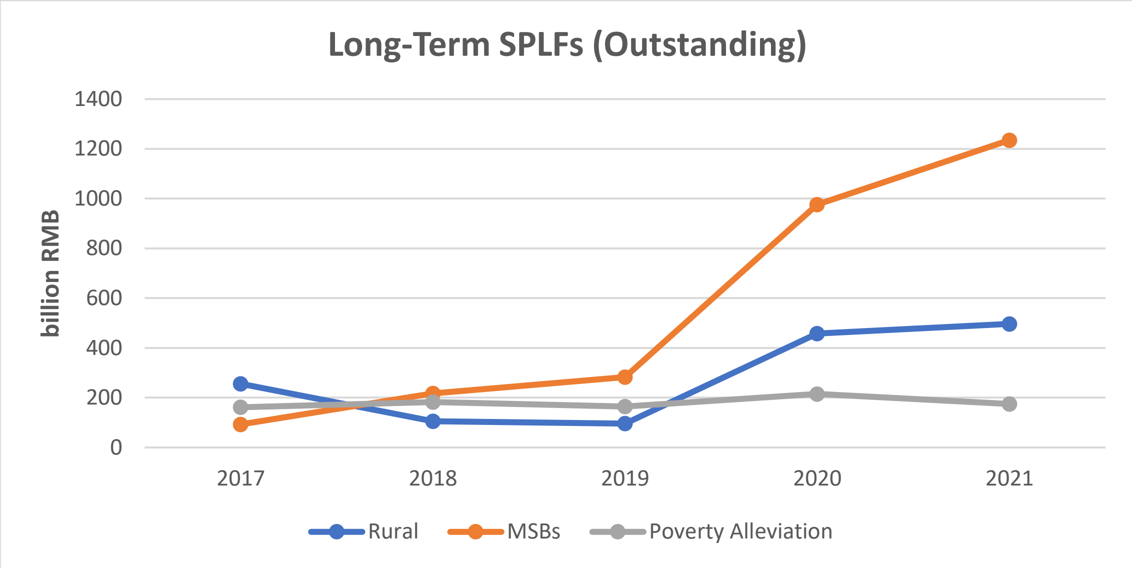
Targeted Lending Facilities are designed with a large set of conditions that must be met before and after one applies for refinancing. These conditions include requirements on eligibility criteria, loan principal, segment-specific terms, and disclosure. Eligibility criteria determine which institutions and projects are supported by respective lending facilities. Most targeted lending facilities are introduced with a cap on the interest rates of the underlying loans to limit the cost of funds shouldered by supported counterparties. For instance, to receive funding for the CERF and the SPLF for clean coal, financial institutions must lend to businesses at rates approximate to the Loan Prime Rate (LPR). Other conditions are segment specific. For the inclusive elderly care SPLF, for example, the quality and price standards of elderly care services supported by the loan must be in line with governmental standards. Additional conditionality is set on the disclosure process for potential rollovers, involving regular updates on the official website and quarterly reports of relevant banking institutions. In the case of CERF, qualified third-party institutions that possess relevant expertise conduct the verification of disclosed information.

Institutions with relevant expertise can coordinate with the monetary authority and the financial supervisor for defining eligibility criteria, monitoring, and supervision. Specific governmental institutions – including the National Development and Reform Committee (NDRC), the Ministry of Science and Technology, the Ministry of Industry and Information Technology (MIIT), the Ministry of Ecology and Environment (MEE), the Ministry of Transport, and the National Energy Administration – have been tasked with identifying the scope of targeted support from a technical perspective. For monitoring and supervision, if misuse of funds is to be found by the relevant ministry or financial supervisor, the refinancing will be withdrawn (PBC, 2022h).

Certain functions of targeted lending facilities have been experimented with during severe negative shocks. In 2020, the PBC introduced “two instruments that directly support the real economy” to absorb the negative shock caused by the COVID-19 crisis. The first instrument with a RMB40 billion quota provided an incentive to banks to allow MSBs to defer principal and interest repayments on their inclusive MSB loans, as long as they promise to keep their employment levels stable. It coincided with a decision by the PBC and the China Banking and Insurance Regulatory Commission (CBIRC) that loans to MSBs due to mature before end-2020 should be deferred. To encourage maximum implementation of this policy among locally incorporated banks, the instrument offered an incentive amounting to 1% of total inclusive MSB loans under deferred repayment and channeled funds through special purpose vehicles (SPVs) via interest rate swap agreements with the banks. The second instrument supported unsecured inclusive MSB loans deploying a RMB400 billion central bank funding quota. As high-quality collateral typically runs out during downturns, the instrument aimed to encourage banks to extend unsecured loans to MSBs. Qualified applicants, who pass a certain threshold in PBC’s internal performance ratings, received a 40% refinancing for newly issued unsecured loans that mature in no less than 6 months. As with the deferred repayment instrument, MSBs supported by the scheme were required to keep a stable employment level (PBC, 2020b).

Valuable learning experiences have been integrated into other targeted lending facilities. Specific features of both instruments have been incorporated into existing and new targeted lending facilities while their incentive mechanisms have been adjusted from aiding MSBs to absorb short-term shocks to creating a stronger market infrastructure for disadvantaged segments. The incentive mechanism for the deferred repayments scheme has been converted from targeting a percentage of the total principal of inclusive MSB loans under deferred repayments to a quarterly incremental increase of inclusive MSB loans. In other words, the more inclusive loans banks extend to MSBs on a quarterly basis, the more support they will receive. Additionally, the incentive financing has been raised from 1% to 2% in the second quarter of 2022. (PBC, 2022c) Within this context, the deferred repayments scheme has been converted into a new temporary targeted lending facility for inclusive MSB loans. Additionally, the inclusive unsecured MSB loans scheme has been extended and, with an expanded scope, incorporated into the long-term SPLFs for rural and MSBs.

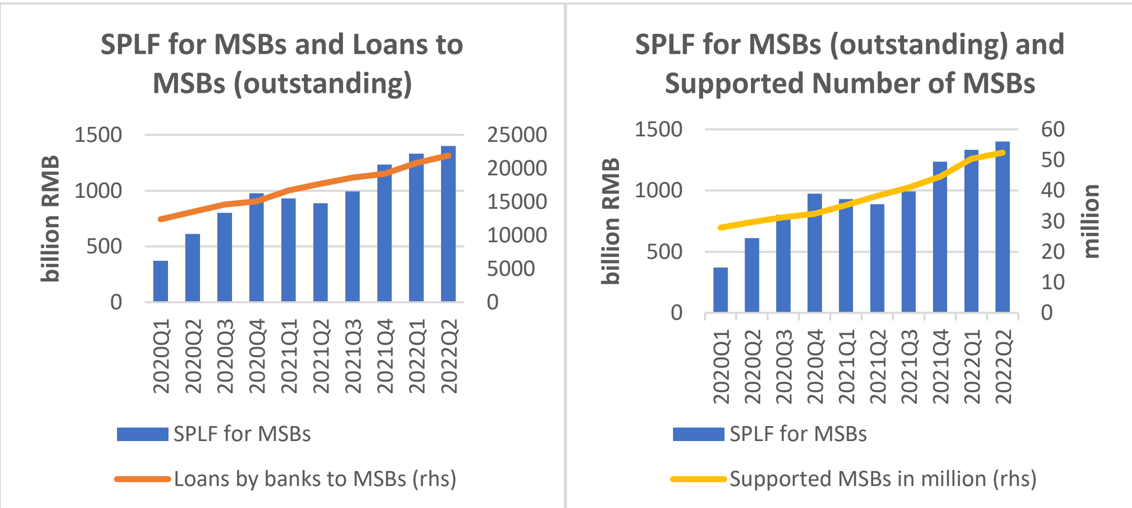
Figure 1. Long-Term Special Purpose Lending Facilities (Relending)



Source: People's Bank of China.

The efficacy of SPLFs is often difficult to determine due to the large number of monetary policy instruments that support economic segments simultaneously. The development of the long-term SPLF balance is illustrated in Figure 1. The SPLFs for MSBs and private businesses has visibly grown more than the other two programs, increasing more than sixfold. For MSBs and private businesses, the SPLF has almost quadrupled in size in 2,5 years while bank loans to MSBs as well as the number of MSBs that received a loan almost doubled, as shown in Figure 2. However, MSBs received support from multiple structural monetary policy instruments, including targeted RRR, the SPLF for MSBs, the rediscounting program, and the Targeted Medium-Term Lending Facility (TMLF) that was terminated in 2021. Thus, despite a positive correlation between the SPLF for MSBs and accelerating loan extension to MSBs, it is difficult to judge whether the SPLF for MSBs was the main cause to result in larger lending volumes to the targeted economic segment.

Figure 2. Special Purpose Lending Facility for MSBs, Loans to MSBs and Number of Supported MSBs.



Source: People's Bank of China.

Before the two instruments on deferred repayments and unsecured MSB loans were incorporated into targeted lending facilities, the statistics show that they have been regularly used by market players. By the end of 2021, the deferred repayment scheme with a RMB40 billion quota provided RMB21.7 billion in refinancing funds (PBC, 2022b). In the same period, locally incorporated banks deferred repayments on RMB2.17 trillion worth of inclusive MSB loans. The inclusive unsecured MSB loans scheme with a RMB 400 billion quota provided a total of RMB374 billion to help locally incorporated banks to extend RMB1.05 trillion inclusive unsecured MSB loans. Given the near full drawdown, the inclusive unsecured loan scheme seems to be sought after among lending institutions.

Among the new temporary programs, initial statistics on the CERF show that it correlated with increased lending to carbon reduction segments in its early phase. Yet, more data is to be awaited to scrutinize the causality between these two developments and the overall efficacy of the program. The PBC reported that, as of the first quarter of 2022, the CERF has refinanced carbon reduction loans worth RMB230.9 billion by releasing RMB138.6 billion refinancing to nationwide financial institutions. The refinancing line is said to support loans originated from July to December 2021 and extended to 1969 enterprises, projected to cut 47 million tons of annual carbon emissions (PBC, 2022d). As of the second quarter in 2022, the refinancing volume of CERF has risen to RMB182.7 billion (PBC, 2022c).

As part of central bank lending, the collateral framework is another tool that the PBC actively uses to account for structural implications.

Box 1. Collateral Framework

The collateral framework for the PBC's lending facilities determines the selection and the value of assets that banks can pledge to acquire central bank funding. To ensure that central bank funds are paid back at the date of maturity, the PBC requires assets to be posted in case of non-repayment. The multi-layered collateral framework defines the range of financial instruments that can be posted against funds acquired through lending facilities, such as the SLF and MLF. For other operations – for instance, relending programs – a different set of eligible collateral may apply. The value of such collateral security is subject to evaluation under pre-defined criteria and to a potential downward adjustment, also called a "haircut". The higher the default risk of an asset that is pledged as collateral, the higher the haircut, as the potential depreciation of the collateral provides less protection for the allotted funds. The inclusion criteria as well as the haircut adjustment of the collateral constitute key pillars of the collateral framework.

Central banks can expand the pool of eligible collateral to provide support to targeted segments of the economy. While the collateral framework is not explicitly a structural monetary policy tool, it can be used to provide market incentives to adjust the economic structure. In particular, the PBC can expand the pool of eligible collateral, also called collateral expansion, to include selected financial instruments for central bank lending. The inclusion of targeted collateral increases their liquidity and attractiveness in the financial market. In 2018, for example, the range of collateral for the SLF and the MLF has been expanded from government bonds, central bank bills, policy bonds, and highly rated (AA or higher) credit, to also include highly rated bonds and debt from segments such as SMEs, green businesses, and rural enterprises (PBC, 2018).

Rediscounting

Rediscounting is a refinancing tool the PBC uses to inject funds into the economy by buying up acceptance bills at a specified quota and rediscounting rate. The prerequisite steps for rediscounting involve transactions in acceptance and discounting (PBC, 2004). Acceptance involves the instrument of commercial or bank acceptance bills. Acceptance bills are a promise of payment up to 6 months of maturity guaranteed by a banking institution that is willing to honor the payment at a due date. When two parties engage in a transaction, party A may ask its bank to issue an acceptance bill against a fee as a promised payment to party B for the service that party A receives. The bank of party A may 'accept' the request and issue the bill in good faith based on party A's credit standing or ask party A to pledge collateral. Discounting takes place when the holder of an acceptance bill sells it at a discount to a bank in exchange for cash payment before the bill matures. Banks in need of cash can also trade acceptance bills at the discounting rate on the money market. Analogously, to help banks to replenish liquidity, the PBC can inject funds into the economy by purchasing discounted acceptance bills via its rediscounting program. Over time, the rediscounting program has a strong anchoring effect on discounting rates between banks. The rediscounting rate of the refinancing operation provides a channel for the PBC to communicate interest rate signals for discounting in the money market as a form of monetary policy transmission.

Rediscounting has been an important channel to provide liquidity to regional and rural banking institutions in times of need. Since its first pilot project in 1986, the PBC has been expanding the range of eligible counterparties to its rediscounting programs to include regional, county-level, rural-level banks, and credit institutions (PBC, 2010). To alleviate the prospect of distressed repayment by specific economic segments – such as coal, electricity, pork meat, and sugar – the PBC has stepped in with rediscounting quotas for affected industries, to foster the discounting of related acceptance bills. In addition, more recently, the PBC's rediscounting program has started prioritizing the selection of acceptance bills issued by banking and credit institutions at the rural and county level, thereby providing preferential financing for these segments of the economy.

OBJECTIVES

Structural monetary policy tools can strengthen the effects on monetary conditions as a complementary approach to non-targeted policy instruments. In China, a considerable part of the RMB4 trillion stimulus of 2009 went to industries with excess capacities, such as heavy industries and property developers. The aftermath of heightened leverage in those sectors and the consequential financial stability risks it posed to the macroeconomy contributed to the PBC focusing more on the development of structural monetary policy tools in recent years. To mitigate against the risk of contributing to the misallocation of funds, the PBC has been increasingly weighing on the structural effects in its monetary policy practice. In that context, structural monetary policy tools have been introduced to help the central bank to reach an adequate level of money supply in its policy practice while seeking to ensure that financing reaches the larger economy effectively (Sun, 2021).

Monetary policy can be calibrated to guide the direction of policy support against distortions in monetary policy transmission. Targeted RRR, targeted lending facilities, and rediscounting programs can provide long-term incentives for the market to adjust its behavior. For example, long-term SPLFs can support rural areas, MSBs and private businesses over time. These sectors are structurally neglected in the modern economy, as they lack access to the financial market. Continued support via banking and lending institutions as a funding channel can counterbalance this distortion in the long-term.

Structural monetary policy tools can also be deployed to absorb short-term shocks to the economy. A range of targeted lending facilities has been introduced to help the economy absorb negative shocks from the COVID-19 crisis. The flexibility of these instruments in their design allows the central bank to address liquidity shortages for a wide range of economic activities. Selected temporary targeted lending facilities have been focusing on MSBs, epidemic prevention, as well as transportation and logistics. In this respect, central banks can contribute to mitigate shocks without needing to roll out widescale monetary easing. Instead, it can focus on the sectors most affected using targeted support with predetermined quotas.

Central banks can better manage risks by adjusting the volume of structural monetary policy tools for targeted economic segments. While the central bank policy rate influences the price of funding via ripple effects on the larger market, structural monetary policy tools can provide phased support to targeted sectors. For instance, support quotas of the SPLF for rural areas have been expanded continuously over time. This may limit the risk for misuse of larger sums of funds while allowing time to examine banks' allocation of funds. During times of crisis, the central bank can set up temporary targeted lending facilities with limited quotas to keep an eye on legitimate need without overshooting.

In addition, forward-looking structural monetary policy tools can support societal transitions in the long-term. Societal transitions – such as environmental, social, demographic, economic, and technological developments – benefit from forward-looking long-term financial support. Central banks as public monetary authorities are well-positioned to contribute to these public policy goals. The PBC has been conducting supply-side adjustments to help set up and consolidate market infrastructures for nascent industries of national importance. To this end, targeted lending facilities have been launched to provide market incentives for banking and financial institutions to reach their targets via credit extension. By 2021, forward-looking facilities for carbon reduction, clean coal, high-tech, and elderly care have been set up.

Monetary policy can be conducted with multi-layered interest rates for the wider economy and neglected economic segments simultaneously. For all structural monetary policy tools so far presented, interest rate policy can be delinked from the non-targeted policy rate. For regular money supply management, monetary easing via structural monetary policy tools can be applied while leaving non-targeted policy unchanged to strengthen neglected economic segments on a continuous basis. For example, targeted RRR cuts can provide monetary support for specified segments. In case of short-term economic shocks leading to liquidity shortage, the same strategy can be pursued via temporary targeted lending facilities to aid economic activities in pressing need. Similarly, structural adjustments can be pursued in a contractionary monetary policy environment. For instance, the PBC can pursue policy rate hikes while leaving central bank targeted lending facilities with preferential terms untouched. It can also partially replace maturing funding with targeted

RRR cuts or relending programs to maintain support for disadvantaged sectors. Such replacement can be conducted partially, fully, or in excess of the maturing funds depending on the needs of the economy. These policy options allow policymakers to fine-tune monetary policy without putting additional pressure on structurally weaker sectors in the face of a distorted transmission mechanism.

LIMITATIONS AND UNINTENDED CONSEQUENCES

Structural monetary policy tools can be ineffective when credit shortage in targeted economic segments does not originate from liquidity shortage. The lack of credit demand from specific economic segments may involve other root causes including behavioral habits, risk management, and macroeconomic weakness. Thereby, additional credit extension from a policy perspective may become wasteful and excessive while contributing to higher leverage in those areas. Moreover, if banking institutions have ample liquidity but refrain from loan extension to specific segments, the problem may stem from heightened risks, inferior risk management standards, and a lack of implementation capacities for relevant projects (Huang, 2022). In such cases, additional policy support in financial supervision or other policy areas may be needed to address these issues.

When structural monetary policy instruments are set up in excessive amounts, non-targeted policy instruments may lose their intended effect. When too many structural tools are in place, this may lead to fragmentation of the monetary transmission mechanism (Wang, 2022). The more structural monetary policy instruments are set up, the more it will start to affect the aggregate objectives of monetary policy. Under this development, financial institutions may excessively rely on preferential policy signals of multiple structural monetary policy instruments while disregarding non-targeted policy signals. This may hinder the overall effectiveness of non-targeted policy tools to provide market incentives. Therefore, the purpose and suitability of structural monetary policy tools must be determined clearly. While public policy guidance through targeted tools can contribute towards correcting market distortions, excessive use thereof can weaken overall monetary policy transmission.

Targeted central bank refinancing may be used to expand funding to undesired purposes. While targeted tools prescribe banking institutions to extend credit to specified areas, there is no restriction on the refinancing banks receive from the central bank. Consequently, funds received with lower funding costs can be used as leverage for other purposes, including for sectors with excess capacity. Banks can also use refinancing to contribute to the bank's creditworthiness for receiving a cash flow loan. In this case, the purpose of structural monetary policy tools to create market incentives for continuous targeted lending is unmet when these tools end up creating a one-off credit extension for specified segments. To create a better incentive environment, targeted tools must be complemented by other financial supervision policies.

Preferential financing, if offered in excess, may create moral hazards. The goal of structural monetary policy tools to strengthen market support for selected sectors may be hindered if preferential terms are excessive. Banks and lending institutions may seek such funds blindly and lose motivation for developing their own assessment of the projects they lend money to. This may lead to an increase in risky and unsustainable projects in targeted sectors.

Third-party disclosure procedures provide an additional step of verification and may create principal-agent problems. The introduction of a third-party to examine the veracity of disclosed information requires an additional step of verification by trusted public institutions. For instance, in the case of the CERF, qualified third-party institutions are involved in the verification procedure as they possess the technical expertise in carbon reduction. At the same time, this may pose risks of joint greenwashing, as companies may collude with such third-party institutions to receive additional funding from banks while lenders may take advantage of the projects to apply for preferential central bank funding.

CONCLUSION

Structural monetary policy tools have become an integral part of the toolset of the PBC's monetary policy. Its complementary role supports the central bank in reaching its aggregate objectives while furthering the alignment of the economic structure with broader policy goals. Its reserve requirements provide tiered incentives to banks and lending institutions. Its refinancing tools offer preferential funding for targeted economic activities. Its collateral framework underlying its lending facilities offers an additional means to support selected economic segments.

Structural monetary policy tools are based on market incentives to stimulate funding for neglected parts of the economy. In this respect, it differs from credit guidance and administrative policies. Targeted RRR and rediscounting programs offer incentives for banks and lending institutions to extend more credit to segments within their operational range. Targeted lending facilities are incentive tools whereby banks must apply for funding at the central bank at their own initiative. The conditions for funding are linked to the targeted goals of the instruments and are designed with a positive incentive. The more banks lend to the specified segment, the more refinancing they receive.

The PBC uses structural monetary policy tools to pursue different policy goals. These goals can range from short-term objectives in absorbing negative shocks to long-term objectives in its public policy agenda. The additional support by the central bank thus provides incentives to bypass transmission barriers for short-term objectives and to create a market infrastructure for the long-term goals.

The use of targeted instruments can add nuance to monetary policy under diverse policy environments. Multi-layered interest rates can be a more nuanced approach to interventions in monetary conditions. The deployment of structural monetary policy instruments adds more means to the monetary policy toolset to fine-tune economic adjustments. At the same time, the process of management should be transparent while policy objectives must be coherent with its purpose.

Governance issues and agency questions may arise as the use of targeted tools gain wide traction. Access to preferential central bank funding is a privilege for all market players. The question of who decides on the use of these tools and how they are implemented is thus a critical one. A transparent and public procedure in the decision-making process may be further conducive to better central bank communication. Moreover, clarification on the timing and condition for the termination of such tools can induce better policy orientation.

The broad use of structural monetary policy instruments by the PBC rests on its insight that all monetary policies have structural implications. A question that every monetary authority must answer is how to reflect these structural effects. The PBC has chosen a proactive and forward-looking approach. Its experience provides valuable insights for other central banks to explore.

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